

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for the reduction of load cycle oscillations in the drive train of a motor vehicle, the method comprising:

detecting a magnitude of an available torque in the drive train of a motor vehicle;  
detecting a change in ~~an~~ the available torque in the drive train of a ~~the~~ motor vehicle, said change causing a load cycle oscillation having a period, determining the period of the load cycle oscillation, and during the commencement of the change in available torque, applying at least one torque pulse which causes an oscillation in phase opposition to the load cycle oscillation, wherein said torque pulse is produced by a motor, said torque pulse having a duration which is about half the period of the load cycle oscillation and a magnitude which is about half the magnitude of the available torque.

Claim 2 (cancelled)

Claim 3 (original): A method as in claim 1 wherein said torque pulse is triggered by a logic device.

Claim 4 (previously amended): A method as in claim 1 wherein said torque pulse is produced by an electric motor.

Claim 5 (previously amended): A method as in claim 1 wherein said torque pulse is produced by a starter motor of the vehicle.

Claim 6 (previously cancelled)

Claim 7 (original): A method as in claim 1 wherein said torque pulse is controlled by torque information from engine electronics.

Claim 8 (original): A method as in claim 1 further comprising determining a change in rotational speed, and deriving control of the torque pulse from the change in rotational speed.

Claim 9 (original): A method as in claim 1 wherein said torque pulse is applied to the engine of the motor vehicle.

Claim 10 (original): A method as in claim 1 wherein said drive train comprises a flywheel having a primary part and a secondary part, said torque pulse being applied to one of said primary part and said secondary part.

Claim 11 (original): A method as in claim 1 comprising applying a first torque pulse having a negative value with respect to said available torque, and applying a second torque pulse having a positive value with respect to said available torque.

Claim 12 (original): A method as in claim 1 wherein said torque pulse commences at the time of synchronization during one of a gear change and starting the engine.

Claim 13 (original): A method as in claim 1 wherein said torque pulse commences during one of a first rise in available torque and an engine torque in opposition to said available torque.

Claim 14 (original): A method as in claim 1 comprising a first torque pulse and a second torque pulse, said second torque pulse commencing one period later than commencing the first torque pulse.

Claim 15 (original): A method as in claim 1 comprising providing first, second, and third torque pulses in succession, said second torque pulse directed opposite to said first and third torque pulses.

Claim 16 (currently amended): An apparatus for the reduction of load cycle oscillations in the drive train of a motor vehicle, the apparatus comprising:

means for detecting a change in an available torque in the drive train of a motor vehicle, said change causing a load cycle oscillation having a period,

means for determining the period of the load cycle oscillation,

means for generating a torque pulse first and second torque pulses coupled to the drive train, and

logic means for triggering the first torque pulse during the commencing of a load cycle oscillation, and for triggering the second torque pulse one period later than triggering the first torque pulse, said logic means controlling said torque pulse so that it lasts pulses so that they last half the period of the load cycle oscillation and is are in phase opposition to the load cycle oscillation.

Claim 17 (original): An apparatus as in claim 16 wherein said means for generating a torque pulse is an electric motor which is coupled to an internal combustion engine.

Claim 18 (original): An apparatus as in claim 16 wherein said drive train comprises a flywheel having a primary part and a secondary part, said means for generating a torque pulse being coupled to one of said primary part and said secondary part.

Claim 19 (currently amended): A control program for the reduction of load cycle oscillations in the drive train of a motor vehicle, the program comprising the following program steps:

detecting a change in an available torque in the drive train of a motor vehicle, said change causing a load cycle oscillation having a period,

determining the period of the load cycle oscillation, and

generating a control signal for generating a first torque pulse having a duration which is about half the period of the load cycle oscillation and is in phase opposition to the load cycle oscillation, said first torque pulse having a negative valve with respect to said available torque, and

generating a control signal for generating a second torque pulse having a positive valve with respect to said available torque.

Claim 20 (previously cancelled)

Claim 21 (currently amended): A control apparatus for the reduction of load cycle oscillations in the drive train of a motor vehicle, said control apparatus having a control program with a program code for carrying out the following steps:

detecting a change in an available torque in the drive train of a motor vehicle, said change causing a load cycle oscillation having a period,

determining the period of the load cycle oscillation, and

during the commencement of the change in available torque, applying at least one successive first, second and third torque pulse pulses which causes cause an oscillation in phase opposition to the load cycle oscillation, each said torque pulse having a duration which is about

half the period of the load cycle oscillation, said second torque pulse being directed opposite to said first and third torque pulses.

Claim 22 (new): A method for the reduction of load cycle oscillations in the drive train of a motor vehicle, the method comprising:

detecting a change in an available torque in the drive train of a motor vehicle, said change causing a load cycle oscillation having a period,  
determining the period of the load cycle oscillation, and  
during the commencement of the change in available torque, applying at least one torque pulse which causes an oscillation in phase opposition to the load cycle oscillation, wherein said torque pulse is produced by a rotating mass via a brake, said torque pulse having a duration which is about half the period of the load cycle oscillation.